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BUREAU OF PLANT INDUSTRY

WEEKLY STATION REPORTS

OF THE DIVISION OF

DRY LAND AGRICULTURE

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

Not for publication without
prior consent of this division.

REPORT FOR WEEK ENDING SEPTEMBER 7, 1935.

HAVRE:

The week was quite cool, with minimum temperatures below 48° on four days and a minimum of 32° on the 6th. Even with 32°, the tender vegetation was not entirely killed. Earlier in the week, killing frosts were reported from all lowlands. Freezing was severe in the mountains, with a minimum of 20° at the summer range.

Safflower was cut during the week. No fall plowing has been done because of the dry soil. Alfalfa seed is ripening in very good shape, and indications are that on sub-irrigated land there will be an average crop. Range grass has matured in very good condition, and cattle shipments are fairly heavy from this section.

Maximum temperature, 82°; minimum, 32°; precipitation, 0.06 inch.
Precipitation, 0.29 inch, second driest since 1916.
Precipitation from January to August, 6.72 inches; normal, 9.37 inches.

HUNTLEY:

Weather throughout the week was cool with minimum temperatures verging on frost. As yet no frost injury to crops has been reported, although on two mornings white frost occurred in places on the station. One measurable shower was received, but the amount was not sufficient to have much influence in soaking up the dry seed beds for winter grains. Fall plowing has progressed slowly on account of the dry soil, and where seed beds were to be prepared an unusual amount of work with roller and disk has been necessary to reduce the clods and put the soil in condition for planting. Winter rye was drilled in the 1 acre plots of the pasture rotation, but no winter wheat has been planted.

Maximum temperature, 81°; minimum, 33°; precipitation, 0.34 inch.

SHERIDAN:

Showers the first of the week, following immediately after the precipitation reported for the last week, raised the total rainfall for the one storm period to 1.28 inches. Where the soil was loose, this penetrated to a depth of 5 to 6 inches, but on hard ground the penetration was only from 2 to 3 inches.

The remainder of the sorgo and most of the corn was cut during the week. The remainder of the corn was picked from the seed blocks also. About as good a lot of seed was obtained as in any year so far. However, except in the blocks planted for seed, the yield of corn will be extremely low. The remainder of the alfalfa left for seed was cut. Because of damage by grasshoppers and blister beetles, it is doubtful if sufficient seed will be obtained to record as anything but a failure, but some seed will be obtained from the total cut.

Maximum temperature, 80°; minimum, 35°; precipitation, 1.06 inches.

DICKINSON:

The balance of the corn on the rotation plots and increase fields was cut during the week. All the increase corn was run into the silo. Although the fodder had been damaged some by killing frost on August 30, the corn made a high quality of silage as the proportion of ears was high. The continuously cropped corn plots were left stand-

ing, as on the higher ground the corn was not injured by frost.

Cleaning crested wheatgrass was started, as there is some little demand for early fall seeding. On the basis of the cleaning so far done, it seems probable that the Station will have nearly 10,000 pounds of seed for distribution. Orders are now on file for about two-thirds of this amount.

Visitors included H. J. Clemmer and Mr. Hays.

Maximum temperature, 78°; minimum, 35°; precipitation, Trace.

MANDAN:

Agronomy - The past week has been entirely favorable for all field work. Sorgo varieties and Sudan grass were cut early in the week. Corn, Sudan, and sorgo in the feed field are nearly all cut. Seed corn has been picked. While the frost of last week was not a real killing frost, it killed nearly all the leaves on corn and a large percentage on sorgo.

Maximum temperature, 79°; minimum, 36°; precipitation, 0.09 inch.

Cooperative Grazing Experiment - Steers in the various pastures appear to be doing well on the grasses, which are dried up at this time. Blue grama grass seems to be their first choice for feed.

Horticulture - Many different varieties of plums, apples, and crabs were picked during the week. Apples and plums are giving variable yields, but crabs are generally heavily loaded and are producing the largest crop in the history of the station. Dolgo, Robin, and Amur were outstanding among the varieties picked during the week. The first two varieties make an attractive red jelly. Some of the new selection also look good. Sel. 48 appears to be one of the best of the native plum varieties. A few new selections of apples and crabs were made in the early part of the week. Dead wood is being removed from the orchards.

The making of cuttings of bedding plants was finished during the week. With no severe frost as yet, the beds of cannas and geraniums are still presenting a fairly good appearance. Lawns are showing effects of the continued dry weather for the last month, and irrigation will be necessary next week.

Harvesting of vegetables has been under way during the week. Ripe ears of sweetcorn varieties, melons and other vine crops, tomatoes, etc., include some of the crops harvested. Field beans were threshed and onions topped. The navy beans produced a much lighter crop than was anticipated, but the yields on the whole were fair.

Arboriculture - The cleaning of chokecherry seed has been completed, also a small lot of honeysuckle seed. Nursery fields which have become weedy during the seed collecting and cleaning operations have been hoed and thistles removed from along fence lines. Chinese elm and honeylocust seedlings are continuing to grow at a rapid rate, but all other species have ceased growth and are commencing to drop their leaves.

Visitors for the week included H. J. Clemmer, Regional Director, SCS., F. E. Storrs, Parks Supt., Fargo, N. Dak., C. M. Painter, Vocat. Agric. Instructor, High School, Lemmon, S. Dak.

BELLE FOURCHE:

Cool weather prevailed throughout the week, and light frosts occurred in neighboring localities, but the lowest temperature recorded at the station was 35°. Corn is much later than usual this fall, and it is likely to be injured by frost. Close to another two weeks of growing weather will be required to mature the small amount of grain

produced on non-irrigated corn. Sorgo on spring plowed land was harvested, and plowing, subsoiling, and listing of plots was completed. The various fall grain plots were prepared and staked for seeding.

Mr. and Mrs. Dan Hansen, Huntley Field Station, visited at the station a couple days, enroute from Rochester, Minn.

Maximum temperature, 79°; minimum, 35°; precipitation, 0.29 inch.

ARCHER:

The weather for the week ending September 7 was rather cool and humid and at times threatening. A shower totaling 0.32 inch occurred during the night of Sept. 6. During the night of September 4 frost occurred in the swales.

Early corn is approaching maturity, and a fair crop of grain is expected. A considerable portion of the corn crop in this region will be cut for feed. This is especially true of the late corn. Potatoes are at a standstill.

Work at the station consisted of harvesting Sudan grass, millet, and late-seeded wheat. Considerable corn was cut with the sled, and the corn binder has started in the sunflowers.

Director W. L. Quayle was a station visitor during the week.

Maximum temperature, 86°; minimum, 33°; precipitation, 0.34 inch.

AKRON:

Cool, partly cloudy weather continued. Rains threatened several times but not until last night was a measurable quantity received. It is drizzling at the present time, 11:00 A.M., Saturday.

The corn, sorgo, and beans have made very slight progress towards maturity. However, it now appears that rotation corn will be harvested next week, which will be about average time for this work at this station. The first replication of the rate and spacing corn was harvested this morning; also Blackeyebrow soy beans in the same project. Tepary has also been harvested from the bean variety experiment. The week has been largely devoted to harvesting proso and hay millet, fanning experimental grain, and general clean-up jobs.

The cool weather is favorable, if it does not cause the fall maturing crops to be delayed to the point where frost may arrest full development. Some of the grain sorghums in the variety experiment look very promising.

Maximum temperature, 89°; minimum, 41°; precipitation, 0.22 inch.

NORTH PLATTE:

Low temperatures have continued through another week. However, a larger percentage of sunshine finally made it possible for alfalfa to cure, and that mown ten days earlier was stacked. Additional rain on Saturday night of last week brought the August total to 1.83 inches, for the year to date 20.37 inches. The latter is 137 per cent of the normal to August 31.

In many localities in the State, August rains came too late to save the corn crop, but conditions generally are fair for seeding fall grain.

Maximum temperature, 82°; minimum, 38°; precipitation, 1.21 inches. Light frost on the 4th.

COLBY:

The cooler weather continued this week, although Thursday and Friday were rather hot for September. It has been rainy much of the

time, but very little water has fallen. Most of that which fell the third week in August has evaporated, leaving the surface soil practically dry.

The corn plots which were cut some time ago were hauled in and weighed. The best one averaged 1200 pounds of stover to the acre. The every other row corn plots were harvested today as they were dried up. The summer fallow and continuously listed plots are still standing, as they are fairly green and are making some growth.

"Old No. 29" left this afternoon for the Free Fair at Topeka, where she will be exhibited by the Ayrshire Breeders' Association as the World's Record Grade Cow. She will also be shown at the State Fair at Hutchinson, the National Dairy Show at St. Louis, and the National Dairy Congress at Waterloo, Iowa. In her life time of 13 years at this station she has produced over 50 tons of milk and 2 tons of butter fat. She has been selected by the Association as the Farmer's Ideal Cow, because her record was made on two milkings a day under practical farm conditions.

Maximum temperature, 93°; minimum, 46°; precipitation, 0.11 inch.
Precipitation for August, 0.89 inch.
Precipitation January - August, 8.38 inches.

HAYS:

It has been cloudy and cool throughout the past week. Light rains reported in previous weeks seems to have been of little value to the feed crops other than to retard the drying-up process. Very few heads have developed, and generally the sorghum fields present a brown appearance due to the damage caused by the drought.

Some volunteer wheat has started on the early disked and one-wayed plots. These have been oneway-disked during the week. On the plots listed for wheat, there was considerable volunteer. These plots have been ridge-busted. Very little volunteer has started on any of the plots which have been plowed.

A few soil samples were taken during the week on some of the regular line studies and for special studies.

Maximum temperature, 87°; minimum, 46°; precipitation, None.

GARDEN CITY:

The agricultural situation in southwestern Kansas and southeastern Colorado is variable, almost beyond belief. Tourists coming east from Pueblo were forced to detour to avoid a flood and ran into a severe dust storm in Baca County. The dust storm suddenly ceased upon coming into Kansas, and within 10 miles streams were at flood stage. After crossing several small streams and getting near Garden City the dust was again blowing from dry fields. An area of over 50 square miles north of Syracuse has received several heavy rains during the summer and report good dry land crop prospects. Several other smaller areas in southwestern Kansas report good crop prospects. In many areas, rains of the past two weeks have supplied the soil with sufficient moisture to seed winter wheat.

On the station all sorghums except on the widest spacing have dried beyond possibility of making more than a very light feed crop. A few heads have appeared on 16½-foot spaced milo. It is doubtful if any of the heads mature.

Soil moisture samples show that during August milo drew moisture from distances greater than 8¼ feet from the plants. The outside row

on 16½-foot spacing is making a better growth than any row in the plot. Thus we have no test of the widest spacing that may be utilized by the plant in a year as dry as this one. When milo must draw its moisture from considerable distance, apparently it does not get the water fast enough to make normal growth. Available moisture is still present in the widest spaced milo, but the plants are not heading. Milo on irrigation is completely and heavily headed.

Maximum temperature, 91°; minimum, 48°; precipitation, 0.23 inch.

TUCUMCARI:

Weather the past week has been cool, calm, and cloudy, with rain threatening much of the time. Only 0.02 inch was received. Crops need moisture, but have not suffered severely the past few days, as they did before the drop in temperatures. Work included cutting and cocking cowpeas, moving weeds along field borders and fence lines, and placing of conduit and wires in office building preparatory to hooking up station to Tucumcari electric line.

Visitors included F. A. Wagner of the Garden City station, and several parties accompanied by county agents.

Maximum temperature, 90°; minimum, 52°;

DALHART:

Delayed heading is now taking place on many of the grain sorghum plants which previously had showed no recovery from the drought. This is especially noticed on the milo varieties on fallow. These are now putting forth fair sized heads. There is much more late heading than early heading on the rotation plots as well. The blue grama grass in native pastures is just now fully headed; no heads were put out the two previous years. Cover crop seedings of rye were started during the week. Fall seeding of rye and Sudan grass on the terraces in the pasture was also done. There seemed to be sufficient moisture for germination.

F. A. Wagner of the Garden City Station was a visitor during the week.

Maximum temperature, 90°; minimum, 51°; precipitation, 0.77 inch.

BIG SPRING:

Continual rainy, cloudy days for the entire week have not permitted any field work. The later plantings of all crops are benefitting greatly by the rains, which have fallen slowly and all of which have gone into the soil. All milo has headed with large, well filled heads and a good crop is expected; broomcorns and sorghums are maturing with ample moisture; and cotton bolls are filling nicely, but the plants have been attacked by leaf worms and poisoning has been necessary. Earlier plantings of kafir are falling badly and should be cut as soon as possible. One field of cowpeas is badly in need of sunshine so that they may be harvested.

Station work for the week has consisted of the poisoning of cotton, repairing fences, and cleaning steer pens in preparation for feeding tests.

Maximum temperature, 83°; minimum, 61°; precipitation, 2.00 inches.

LAWTON:

The cool, cloudy, showery weather since the first of September afforded a sharp contrast to the crop devastating conditions that persisted throughout July and August. Precipitation on three days during

the past week amounted to 0.49 inch, and intermittent rains are falling as this report is written. Growing conditions are optimum but, as yet, there is no reserve moisture in the soil to support fall and winter growth of small grains.

Farmers are busily engaged in the preparation of fall sown seed beds, and some early seeding for pasture is being done.

Many farmers on deep sandy land and on some of the creek bottom fields report cotton well loaded with small bolls that should reach maturity in good shape. Such conditions are spotted, and they do not exist on the upland fields. Bolls already well developed on the upland fields will likely reach normal maturity. A few bolls are already beginning to open on plantings made as late as the first of June.

Leaf worms are a serious menace to cotton south, east, and southwest of Lawton territory. Eggs are present on the cotton leaves in this vicinity and it is very probable that worms will be present in the near future. Poison dust has been used quite extensively in infested fields, even though weather conditions have been rather unfavorable for such work.

Minimum temperatures for the past week varied only from 62° to 64° and the maximum range extended from 70° to 91°.

Dr. C. E. Leighty and Messrs. Mathews and Chilcott were station visitors Sept. 1 and 2.

WOODWARD:

On September 1 there was precipitation of 1.08 inches, and since that time skies have been cloudy with frequent traces of precipitation. As this report is written a light rain is falling. Temperatures over the past five days have been low. Hence the sorghums have not made the quick response to the rain they might have made with warmer, brighter weather. However, those planted late and still in boot, and those that managed to head despite drought will undoubtedly be greatly benefitted. Others will branch and sucker, but new growth will not have time to mature.

So little moisture has entered the soil since wheat harvest that conditions are not promising for a winter wheat crop. Recent light rains, however, will stimulate the planting of a great deal of winter wheat.

A month ago the hitherto dependable honey locust was ruinously stricken by borers. Now the American elm is being killed by them. Wet spots show every few inches from tip to base where borers have entered them. A great many trees on the station will have to be removed during the winter and spring and replaced by others. This brings forcibly to attention the fact that trees in the Plains are not a permanent asset once established.

With more rain the ornamentals on the station will continue to make a fine showing until frost. Heckrotti honeysuckle, the hybrid bignonias, the China fleecevine, caryopteris, aniscanthus, and numerous other plants give promise of a great abundance of bloom for weeks to come.

Station work for the week consisted of picking fruit, grading roads, roguing sorghums, drilling wheat in vineyards and windbreaks to prevent soil blowing, and spraying orchard.

Maximum temperature, 94°; minimum, 53°; precipitation, 1.09 inch.

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REPORT FOR WEEK ENDING SEPTEMBER 14, 1935.

JUDITH BASIN:

Soil moisture conditions continue unfavorable for the seeding of winter wheat. Rain has threathened several times during the past three weeks, but no appreciable moisture has been received. Winter wheat seeding is going ahead, but most farmers are rather pessimistic as to the outcome. The results from the date of seeding experiments on the Cereal project show September 10 to be the optimum date of seeding. Seeding after September 20 and especially during the month of October has not been any too satisfactory because of the damage from soil blowing. Present indications are that where there is sufficient moisture in the fallow to germinate the seed the grasshoppers may damage the crop, and if it doesn't come up until rain is received it may be subject to severe loss from soil blowing and winter injury.

This week completes the 21st consecutive week that the steers have been on the crested wheatgrass pasture. There is still some feed remaining and with some rains would furnish plenty of feed for them for some time to come. The steers were removed from the native grass at the end of 70 days and from the bromegrass at the end of 127 days. The gains this season on all pastures have been greater than those of last season despite the lower rainfall.

With the exception of fall seeding, all field work on the station for the season is about complete.

Maximum temperature, 87°; minimum, 37°; precipitation, Trace.

HUNTLEY:

Weather during the last week again turned warm and dry, which change was beneficial to Sudan grass and sorgo, the only crops yet unharvested on the Dry Land plots. These crops are now fully headed, and some of the earlier plants are in bloom. Should frost hold off for another ten days or more, fair yields of forage should be obtained. Field work has consisted of miscellaneous clean-up jobs, staking plots for fall seeding, and weighing hogs in the pasture experiments. Animals on pasture have grazed off the more palatable forage in the plots and have made fairly good gains.

The present price being received for winter wheat has tempted many farmers to seed back some of their stubble land to that crop. Much of this is being done without preliminary tillage for the control of downy bromegrass, which in recent years has been an additional hazard affecting wheat production by "stubbling in".

Maximum temperature, 90°; minimum, 37°; precipitation, None.

SHERIDAN:

Cool weather continued over the first of the week, but warm weather prevailed again over the remainder of the week. Seeding of fall grain was done, except in the pastures where some of the land is needed for further pasture. Fall plowing in the rotation field also was completed. Penetration of moisture from the rains the first of the month was sufficient so that a good job of plowing was possible with the disk plow. A fair job of plowing was possible with the moldboard plow on all but two of the plots which could not be paired to plow with the tractor and the disk plow, and these were plowed with the tractor and the disk plow deadheading one way. The varieties of flax and proso were threshed.

Maximum temperature, 89°; minimum, 40°; precipitation, Trace.

DICKINSON:

Moderate weather with no frost during the week was favorable for the maturity of such garden and field crops as have escaped earlier frost.

Winter wheat and rye were seeded on the rotations on September 12. The soil is so dry that most of the seed will not germinate until rain falls. Fall plowing is being delayed with the hope that rain will make possible a better job of it.

Picking of late plums and crabs was continued through the week. Yields are very light or a total failure for most varieties of plums, and the crab yields also are light due to the small size of most of the fruit. Heat and dry weather hindered development so that many varieties have fruit only about half the usual size.

Maximum temperature, 88°; minimum, 39°; precipitation, Trace.

MANDAN:

Agronomy - Fall plowing in the rotations was started the first of the week and will be practically completed today. The soil is very dry for plowing, and on most of the plots good sized clods are turned up. This is in contrast to 1933 and 1934 when the soil turned up in a pulverized condition. Threshing for the season was completed during the week, when seed blocks of alfalfa and millet were threshed.

Maximum temperature, 81°; minimum, 37°; precipitation, None.

Cooperative Grazing Experiment - Native vegetation is fast drying up and coming to maturity. The hillsides are taking on their fall appearance.

Horticulture - Picking of plums, apples, and crabs has continued until only a few late varieties are left. Yields of crabs have been especially high this year. Minn. 350 is one of the newer apples that looks promising. This variety bore a heavy crop of good fruit. A number of apples and crabs are fruiting for the first time in the breeding blocks. Several look interesting to tag for further observation. A few have been given selection numbers.

The latter part of the summer has been very dry, and a good rain is needed to put the trees in better condition for the winter.

Visitors for the week included Frank Rabak, Drugs and Related Plants, B.P.I.; Paul H. Roberts, F. E. Cobb, and S. B. Hutchinson, Plains Shelterbelt project.

BELLE FOURCHE:

Ideal Indian summer weather, with clear skies, warm days, and cool nights, prevailed throughout the week. The warm weather was unusually favorable for maturing late crops and corn ripened rapidly, but the continued lack of moisture has seriously impaired the development of potatoes.

No rain heavy enough to benefit crops has been received for over 13 consecutive weeks. A total of only 2.39 inches precipitation has been recorded since June 11. There were 21 days during this period in which measurable amounts of precipitation occurred, but the maximum amount received in any one rain was 0.34 inch, and there were only two days in which the precipitation exceeded 0.20 inch.

Maximum temperature, 89°; minimum, 39°; precipitation, None.

AKRON:

The drizzling rain falling as last week's report was being written amounted to 1.54 inches for the 24-hour period ending 7:30 A.M., Sunday. These week-end rains were quite general all over northeastern Colorado. They will place soil in fine condition for seeding winter wheat and rye and may possibly help late beans, provided frost does not occur earlier than usual.

The land acquired in 1932 was seeded to Kanred winter wheat on the 11th and 12th under very favorable conditions. Corn was harvested from the land to be devoted to cereal variety experiments next year. Rotation corn has been very slow about ripening but was harvested this week end. Other work was the seeding in the cereal nursery, the harvesting of ripe beans from the variety experiment, and the harvesting of broomcorn.

Visitors were Dr. and Mrs. F. E. Clements and Dr. C. J. Whitfield. The former from the Alpine Laboratory of the Carnegie Institution at Colorado Springs and the latter of the Ecology Section of the Soil Conservation Service. This was Dr. Clements first visit since 1913 when Drs. Shantz and Briggs were doing their water requirement of plant studies at this station.

Maximum temperature, 89°; minimum, 43°; precipitation, 1.75 inches.

NORTH PLATTE:

Following a two weeks' season of abnormally low temperatures and overcast skies, the past week has been much warmer and clearer. These conditions have been excellent for the maturing of corn and sorghum crops, the curing of alfalfa, and finishing up of late threshing. Final preparation of plots for fall grain seeding has gone forward, and, with favorable weather permitting, most of the seeding will be done during the coming week.

C. A. Suneson of the Cereal Division was at the station for seeding a winter wheat nursery September 12-13.

Silo filling has continued, and will be finished during the coming week. In the contest between corn and Atlas sorgo for ensilage tonnage, corn appears to be the leader this year, although the difference will be less than it was in favor of Atlas in 1934.

Maximum temperature, 90°; minimum, 42°; precipitation, 0.68 inch.

COLBY:

The first of the week was rainy, but the last three days have been dry and hot with a very hot wind blowing this afternoon. The moisture which fell did not revive the sorghum crops to any great extent and improved the conditions for seeding wheat only slightly. With a continuation of the hot weather, the moisture now in the surface soil will not be enough to germinate the wheat in most cases to assure a good stand.

Maximum temperature, 96°; minimum, 45°; precipitation, 0.48 inch.

HAYS:

The drought has once more been broken at least temporarily by a total rainfall of 1.02 inches which occurred last Sunday and Monday. This wet the soil to a depth of 4 inches and is sufficient to make possible the finishing of the preparation of a good seed bed so far as surface soil is concerned. The sub-soil remains too dry on crop land to give hopes for a good crop. Local showers during the last few weeks have encouraged early seeding, which has been started by many farmers.

It would seem they are taking a big chance on more rain within a short time, and should this rain not occur, it is likely much reseeding may be necessary. The need of early pasture for feed and the fear that the surface soil may dry out again are factors causing much of the seeding which has been in progress for three weeks.

Although the rains have started a good growth of volunteer and weeds on early worked soil, the feed crops are slow to respond. On the project the drilled sorghums and the row crop sorghums have not made any noticeable response to the changed conditions except for a little new growth and development of a few heads on marginal rows. The double-spaced row kafir in Field-B has also made little change, but the double-spaced row kafir in Field-C is the exception having produced some growth and several heads during the week. The wide-spaced corn in the same field still carries some green foliage, although the regular-spaced corn is dry and all the corn in Field A and B was dead and harvested some weeks ago.

During the last two days all fallowed plots have been shallow-cultivated as a final preparation before seeding. Early plowed plots have also been cultivated to kill the first growth of volunteer but will likely need another cultivation before seeding. All listed plots which have been curled in some time were double-disked to kill volunteer and level the ground. These also will likely need another tillage operation before seeding. The plots which were early disked or one-rayed and were one-rayed again before the last rain to kill volunteer will need another operation to kill a second growth of volunteer which is now emerging. A few special soil samples were taken during the week.

Maximum temperature, 97°; minimum, 50°; precipitation, 1.02 inches.

GARDEN CITY:

Most fields in southwestern Kansas are too dry to seed wheat with more than slight possibility of producing a crop. Many fields where wheat failed last winter were allowed to grow up to weeds during the summer, and 1 to 3 inches of rain the past two weeks in some localities was rapidly dissipated by the revived weeds. Now, these fields are again too dry to seed wheat. A few fields in the same localities that were well fallowed have 20 to 30 inches of moist soil and prospects for wheat are good. Unfortunately there are less than about one-tenth of the fields not cropped in this moist condition.

On the station, dry land crops are nearly all complete failures, except for very light forage yields on some plots. Irrigated sorghums are maturing and promise heavy grain and forage yields.

Maximum temperature, 100°; minimum, 43°; precipitation, 0.20 inch.

TUCUMCARI:

Warmer weather the past week has caused renewed rolling and firing of late crops. A month of comparatively warm weather, accompanied by considerable precipitation, will be required to mature normally many late sorghums. Work included seeding wheat and rye plots, harvesting cowpeas and Sudan grass, and mowing a very light alfalfa growth for seed.

The plains section of the county has had copious rains the past few weeks, and much wheat is up and in excellent condition. Row crops over the county will be spotted and comparatively light except in favored small areas.

Visitors included Extension Director Quisenberry, Extension Agronomist Reed, both of State College; Messrs. J. E. Smith and B. F. Barnes of Dalhart; and C. B. Brown and family of Tucson, Ariz.. Mr. Brown was formerly superintendent of the Tucumcari station and has been county agent in Arizona since leaving Tucumcari in 1919.

Maximum temperature, 95°; minimum, 47°; precipitation, 0.31 inch. Precipitation 1935 to date, 10.97 inches; deficiency, 2.08 inches. Total past 24 months, 18.43 inches.

DALHART:

A light rain, which fell Saturday night and Sunday, totalling 0.89 inch, permitted normal growth of sorghums during the week. The moisture received in this rain also gave moisture for the emergence of rye seeded during the preceding week for a cover crop. All areas seeded to rye before the rains are showing emergence now, but the stands are not as thick as anticipated. Seeding of roadways and tree plantings was completed this week.

Some time was devoted during the week to making a study of native grasses. The late rains (since the 20th of August) received in many localities have caused the native pastures to become a waving sea of grama. Even on the station where the stands of native grasses were despaired of no later than last spring, the grama grass is headed out. The native sod strip north of the drive to the buildings, which did not have sufficient vegetation to hide a golf ball during 1933 and 1934, now has grama grass fully headed. On the low lying part of this area the stand of grama is fully normal, but on the higher ground the stand is thinned to an estimated 50%. The native sod pasture, which is also predominately grama grass, and incidentally this part of the southwestern Great Plains shows now to be largely a blue grama grass country under adverse conditions, on the station also shows thin to thick seed stems. There is an apparent benefit to the native grasses from the terraces constructed in the pasture. This benefit is chiefly noticed by the increased number and height of seed stalks within the area benefitted by the terraces. An area of native sod some 30 miles east of the station was also studied during the week. On June 5, 1935, this area appeared to have the grass on the entire quarter section, which was a silty-clay soil with a cover normally of both buffalo and grama grasses, completely scoured off and apparently killed by the scouring action of the winds throughout the calendar years of 1933 and 1934 and during 1935 to the date of observation. An examination on September 9 showed only a scattering of blue grama grass plants and probably a similar number of small buffalo grass plants. The buffalo grass plants were confined to small depressions, otherwise not noticed except immediately following a rain. This suggests the thought that possibly contour furrows might also conserve the stands of buffalo grass. The territory was also studied for recovery of native vegetation through Tucumcari, to Clovis, N. Mex.. In spite of apparent deficiencies of rainfall through parts of this territory for 1935 this recovery of native grasses can best be described as excellent. While blue grama (Bouteloua gracilis) is the predominating grass in the region studied, other grasses occurred either where the soil was more favorable to them or in mixtures with the blue grama. Those associated with the B. gracilis and appearing fully as vigorous where found were: Hairy grama (B. hirsuta) and side-oat grama (B. curtipendula). The hairy grama has only scattering distribution and the side-oat grama is

largely confined to the breaks and to the thinner classes of soils. Buffalo grass (Buchloe dactyloides) has apparently not recovered as rapidly as the gramas. Only rarely were patches of buffalo grass noticed, but scattered plants were noticed through much of the blue grama pastures. Almost as easy to find as Buffalo grass were plants of false buffalo grass (Munroa squarrosa). Through the 'breaks' and in soils where the turf grasses could not gain a foothold were the bluestems (Andropogon scoparius, A. hallii, and A. saccharoides). The latter is quite generally distributed and seems to be the more common, although pure stands were not found of any of them. The dropseeds (Sporobolus) appeared more frequently in waste places or where the native vegetation had been disturbed or where thin layers of soil covered the native sod. The S. cryptandrus or sand dropseed is the most common. While a large number of native grasses, other than those mentioned, were found, no pure stands of any other grasses were found except for the presence of Hilaria jamesii in the low lying ground or flats just east of Tucumcari Mt.. The blue grama is the predominating grass, and where sufficient moisture has been received for recovery presents and excellent appearance.

Maximum temperature, 91°; minimum, 44°; precipitation, 0.89 inch.

BIG SPRING:

Favorable weather conditions have prevailed all week and have permitted much needed field work being done. All varieties of broomcorn in the May 15 and June 1 dates of planting, and one plot in the rotations, were harvested. All kafir and corn plots in rotations were cut, and all except a few of the later varieties in the May 15 date of planting were harvested along with a few of the earlier varieties in the June 1 date. A large block of Standard and Ajax kafir and Sudan grass was cut and shocked; and the evergreen planting, orchard, vineyard, and roadways in rotation block were seeded to wheat to prevent soil blowing next winter and spring.

Station cotton is not yet open, but considerable cotton is being picked and ginned in this section. There is also considerable milo being harvested.

E. W. Johnson from the Woodward station was a visitor September 8 and 9, looking over the evergreen planting.

Maximum temperature, 85°; minimum, 50°; precipitation, 0.32 inch.

WOODWARD:

There was only 0.11 inch precipitation over the week. This probably had the effect of delaying the retrogression of the sorghums which now have used up all the moisture from the 1.09 inches of precipitation recorded the first few days of the month. It is very remarkable, the great advantage to which this was used by the sorghums. Sowed feed has doubled the growth it had before this lingering rainy spell, and many rowed sorghums headed out which otherwise could not have done so. Those already headed were assisted greatly toward grain production. But all sorghums are again showing great distress under high temperatures. Fortunately there have been few of these.

Winter wheat planted over the past ten days in roads and tree plantings to hold soil is up to a good stand. Weekly station work consisted of drilling wheat, roguing sorghums, pulling and seeding broomcorn, cleaning wheat, harvesting cowpeas, taking soil samples, trapping gophers, picking fruit, and budding shrubs.

Visitors included Dr. M. A. McCall, Dr. John H. Martin, of Washington, and Dr. D. L. Jones and Frank Gaines, of Texas Experiment Station, Lubbock, Texas.

Maximum temperature, 95°; minimum, 47°; precipitation, 0.11 inch.

PENDLETON: Report for two weeks ending September 14, 1935.

Hot, dry weather with low humidity continued during the past two weeks. No fall seeding has been attempted in this area, as the fallow soil is dry to a depth of about 4 inches. A slight shower of 0.11 inch fell on the 15th following a dust storm. Some of the mountain ranges have deteriorated to the point where it has been necessary to move stock off the range.

Visitors for the week were R. S. Besse, Vice Director Oregon Experiment Station; Technical Crew of the Soil Conservation Project in Walla Walla County, Washington.

Maximum temperature, 92°; minimum, 41°; precipitation, 0.11 inch.

Precipitation for the period July 1 to Sept. 15, 0.38 inch.

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WEEKLY STATION REPORTS

OF THE DIVISION OF

DRY LAND AGRICULTURE

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

Not for publication without
prior consent of this division.

REPORT FOR WEEK ENDING SEPTEMBER 21, 1935.

JUDITH BASIN:

Cloudy skies gave promise of rain several times during the past week, but no appreciable amount of moisture was received. A strong wind on the 16th caused severe soil blowing on some fields and served as a warning of what may be expected if the fall and winter is mild and open. Seeding of winter wheat is going ahead, most farmers having decided to seed and hope for the best. Wheat seeded on fallow two weeks or more ago has emerged in spots. The winter wheat on the rotations and varietal plots on the Cereal project have not yet been seeded.

Feed for livestock on the ranges is becoming very scant. Fall feeding of livestock will probably be necessary 4 to 6 weeks earlier than during the past season.

Maximum temperature, 89°; minimum, 40°; precipitation, 0.04 inch.

HUNTLEY:

Dry weather with minimum temperatures verging on frost continued throughout the week. Late crops such as beans, corn, sugar beets, and potatoes have ripened rapidly. Harvesting of beans and corn is well under way or has been completed on most farms, and early potatoes are being dug.

Field work on the Dry-land project at the station has consisted of seeding winter wheat and rye in the rotations and harvesting Sudan grass, sorgo, soybeans, and alfalfa. The alfalfa harvested was some that had been left for seed, but grasshoppers destroyed such a large percentage of blossoms and seed pods that the crop was cut for hay. Grasshoppers continue to be numerous and are reported to be feeding on newly emerged winter wheat in some places.

Maximum temperature, 86°; minimum, 34°; precipitation, None.

SHERIDAN:

Warm weather continued over the first of the week, but the last 4 days were quite mild and pleasant. Alfalfa, Sudan grass, and a seed plot of Kursk millet were threshed the first of the week. The yield of alfalfa was extremely low, but a fair amount of seed was obtained from the total threshed. Weather conditions were fairly favorable for alfalfa seed, but grasshoppers and blister beetles destroyed the most of the blossoms.

One 5-acre field for feed was plowed during the week. Husking of corn in the rotations was begun the 20th. Apparently there is more corn that there appeared to be when it was cut, but yields still will be extremely low. Hauling manure on to fields for feed and cleaning grain occupied the remainder of the week.

Most fall seedings of grain emerged with an uneven stand during the week.

Maximum temperature, 92°; minimum, 37°; precipitation, None.

MANDAN:

Agronomy - Ideal fall weather prevailed throughout the past week. The day of the 15th was very hot for this time of year. The soil is very dry at present, as there has not been a good rain since July.

Fall plowing and fall listing of plots were completed early in the week. Field work is nearly completed for the season. Winter wheat and winter rye were seeded during the week.

Maximum temperature, 98°; minimum, 42°; precipitation, Trace.

Cooperative Grazing Experiment - Pastures are in very good condition for fall grazing, and the cattle appear to be doing well on them.

Horticulture - With the exception of a few trees, the picking of late varieties of plums and crab apples was completed during the week. Due to the continued dry weather of late summer, many late varieties were not up to standard in quality. As usual, the Virginia was one of the best crab varieties. Wyant, Burwood, Winona, and "Melander" showed to advantage among the late plum varieties. Dead trees are being pulled and hauled from the orchards. Fall notes including height and diameter measurements are being taken.

With the weather staying warm and dry both vegetables and ornamentals are having a difficult season. It was necessary to irrigate lawns and shrubbery about the immediate premises during the preceding and present week. Severe frost has held off so far, and lawns and flower beds are still in good condition, especially since the irrigation. Hardy chrysanthemums are budding freely, and some varieties are already in bloom, but owing to the warm weather the blossoms are much inferior to last year's.

Tomatoes and squash are still ripening in the field, root crops, late cabbage and other vegetables still unharvested apparently have stopped growing, and if rains do not come soon might as well be harvested.

Seeds of various ornamentals such as Delphinums, Hemerocallis, Syringas, Physocarpus, Rhus, etc., are being collected this fall and will be planted in seed beds to provide new stock for the future.

Arboriculture - The removal of dead wood from shelter belt combinations, cultural tests, and testing blocks has continued during the week. Many of the blocks present a very "ragged" appearance after dead wood has been taken out. Several blocks will have to be discarded, as so few trees remain that the test will not yield further reliable data.

Visitors for the week included Mr. and Mrs. F. E. Clements, Carnegie Institution, Washington, D. C. and Dr. C. J. Whitfield, Soil Conservation Service.

BELLE FOURCHE:

The weather has been abnormally warm during the day time, but the nights have been quite cool. Clear skies have prevailed, and there has been very little wind. Corn, potatoes, and other late crops have matured rapidly and are beyond the point of being injured seriously by frost. Harvesting of corn on the dry-land rotations is practically completed, only 2 plots being left to cut.

Maximum temperature, 93°; minimum, 41°; precipitation, None.

ARCHER: Report for period September 8 - 21.

During the period September 8-21 the weather was warm and for the most part clear except during the first few days, during which time a general storm totaling 1.43 inches of precipitation ended. These conditions made possible the seeding of winter cereals. The prairie grasses have greened-up considerably.

Work at the station consisted of harvesting corn in the experimental field, putting up silage, and seeding winter cereals in rotation plots.

Dr. G. H. Starr of the University of Wyoming was a station visitor September 7.

Maximum temperature, 89°; minimum, 44°; precipitation, 1.11 inches.

NORTH PLATTE:

Weather has been dry, warm, and open, with practically 100 per cent sunshine and no rain. Top soil where there is a crop of weeds is again quite dry. Early seeded wheat has emerged with good stands. That now being seeded may be irregular.

A trip of 250 miles northwest in the State was made during the week. Corn is somewhat spotted, but the crop generally in that section is little if any below normal. Forage is abundant, and livestock in good condition. In the seed potato producing areas the crop is in good condition and yields will be good if frost is delayed for ten days to two weeks.

AKRON:

A touch of summer weather proved favorable for the ripening of the beans and the grain sorghum. Beans set pods after the rainfall of the first of September and time is now required for maturity. Rotation, variety, and rate and spacing winter wheat were seeded during the week with excellent prospects for stands on all soil preparations. Winter wheat seeded the 11 and 12th was emerged by the 16 and 17th.

Besides seeding, current work was the harvesting of corn, forage sorghums, and beans.

Visitors were H. H. Finnell, Regional Director of the Soil Conservation Service, Director of the soil erosion project at Temple, Texas, and D. W. Robertson, T. G. Stewart, and Dean Anderson of the College.

Maximum temperature, 95°; minimum, 44°; precipitation, None.

COLBY:

The weather continues dry and hot. Part of the time it has been quite windy. All crops and pastures have practically ceased growth except in low places and along the edges where there is an extra supply of moisture. Farmers are hesitating about planting winter wheat. Much of that which has been seeded is not coming up satisfactorily. Grasshoppers are doing considerable damage where the wheat is coming up. At the station no seeding has been done. The plots have been staked preparatory to seeding this coming week, however.

Maximum temperature, 99°; minimum, 50°; precipitation, None.

HAYS:

Dry weather again prevails. Sorghums on the Dry Land project remain at a standstill except for the few plants in marginal rows and on the wide-spaced-row plots in Field-C, which have headed and are de-

veloping some seed. There is so little of this, however, all plots probably will be credited with a grain failure, except perhaps the wide-spaced-row plots in Field-C.

Drilling of wheat continues throughout this section, but not at the rapid rate that usually occurs at this time of year. A larger percentage of the farmers than usual are delaying seeding for a more favorable period, realizing there is danger of losing the seed on account of the lack of moisture. The earliest seeded fields in this locality have germinated well and a good stand has resulted.

During the last few days 20-foot soil samples have been collected on 7 plots for moisture determinations.

Two machines being developed for collecting buffalo grass seed, one of which was constructed at Kansas State College, and the other at the Fort Hays Experiment Station are being tried out under field conditions this week.

Dr. Brown and Mr. Murphy of the Garden City Experiment Station; Professors Zink, Aldous and Parker of the Kansas State College at Manhattan; and G. C. Fuller, Washington, D. C. were among the visitors at the station during the week.

Maximum temperature, 99°; minimum, 57°; precipitation, None.

TUCUMCARI:

Hot, dry weather has prevailed the past week and crops have matured, or dried up, rapidly. Drilled increase sorgo has been bound and shocked, increase cowpeas and beans harvested, broomcorn pulled, and stalk counting completed.

Early varieties of sorghums planted the end of May will be ready for harvest very soon. Some of the kafirs planted late in May will be practically as late maturing as corresponding plots planted the middle of June.

Visitors included J. H. Martin, J. E. Smith, and E. W. Johnson.

Maximum temperature, 94°; minimum, 57°; precipitation, None.

DALHART:

A rather quiet fall week without any precipitation, excess wind, or abnormal changes in temperatures has furnished a normal development period for the later sorghums. Work during the week has consisted of late fall plowing, soil moisture sampling, removing bags from late sorghum seed heads, weed cutting, and harvesting of the hay varieties in the soybean nursery. While the plant growth has been normal for the month of September, it has just been yesterday and to-day that retarded growth was noticed and wilting evidenced. The cowpeas, which have been making most of their growth this month, are showing signs of moisture shortage and must be harvested soon. Stands of rye where seeded for a cover crop will be thin, though ample, for a cover.

Maximum temperature, 92°; minimum, 53°; precipitation, None.

BIG SPRING:

Weather conditions, during the past week, have remained favorable for field work, and much has been accomplished. All the cowpeas, which were planted late, were cut and stacked and exceptionally good yields were obtained. An increase block of earlier planted cowpeas yielded well because of the ample moisture during the past three weeks. Wheat plots have been plowed or listed, and the fallow plots were cultivated. Several varieties in the June 1 and June 15 date of planting

sorghums were harvested and the May 15 date was completed. The evergreen planting was hoed.

Milo is maturing rapidly in both the experimental plots and the increase blocks. As yet, no cotton has opened. In the orchard, Douglas pears ripened and were picked this week. Large yields of excellent quality fruit were obtained from all trees.

Maximum temperature, 88°; minimum, 58°; precipitation, None.

LAWTON: Report for period September 8 - 21.

Temperatures the past two weeks have been confined to a very moderate range, the maximum varying from 84° to 90° and the minimum from 53° to 67°. The wind velocity, as a whole, has been quite low, and two showers, 0.21 inch on the 15th and 0.11 inch on the 16th were beneficial to the surface soil.

An unusually heavy growth of volunteer wheat and oats developed after the late August and early September rains. This growth was destroyed September 12, and fairly good seed beds were prepared for fall seedings. October seedings will require additional moisture for satisfactory emergence. The first seeding of winter barley, made September 14, emerged to good stands by the 20th.

Kafir and sorgo plots that were replanted at a late date in Field A have made very poor development under the favorable conditions that have existed since the last of August. Very small heads are partly exserted, and grain production on these plots is hopeless.

Cotton has opened with fair rapidity during the past week, and picking will be necessary in the near future. At the present time there appears to be from 1 to 5 green unopened bolls per plant. As yet, very little cotton is coming to the gins from the surrounding farms. Boll weevil are sufficiently numerous in the rank growth on the creek bottom fields to sharply curtail the late top crop of bolls that many farmers have been counting on. Leaf worms failed to become a menace to the station crop, and there is but little damage in the immediate vicinity.

WOODWARD:

A farmer recently stated he believed Oklahoma can raise crops on nothing but sunshine. It would almost seem so, with sorghums heading and maturing grain when moisture samples show that available moisture is practically if not entirely exhausted. There is little doubt that a few hot days would burn sorghums beyond recovery. But with continued cool weather few of them except sowed feed have shown much distress.

Farmers complain that working the soil has exhausted all the moisture, and this is likely true since it was all in the first foot. On the station, wheat planted in windbreaks and orchards where it has severe competition at best is dying rapidly. In roadways it is making satisfactory growth.

Many flowers came forth with the rain the first of the month, and blossoming was encouraged by the cool weather which succeeded until the station was becoming a pretty show. As the drought persists, however, the blooms are becoming fewer and fewer and a general dusty, drought stricken appearance marks everything.

The plant attracting most attention at present is Stenolobium stans: It has a bloom of about the same shape and size as the desert willow, but is pure bright yellow in color, which makes it very striking. It grows to 20 feet in height and may be covered with bloom. There is question as to how far north it is hardy.

The several caryopteris (blue beard or blue spirea) are now in full bloom. They seem all to be about the same. They are worthy much wider use than they have. Blossoms are blue with long, grayish stamens, giving them a sparkling appearance. Caryopteris contrast well with dalea which have purplish red blossoms at this season.

Station work for the week consisted of cleaning and drilling wheat, roguing and topping sorghums, harvesting broomcorn and cowpeas, grading plot roads, trapping gophers, picking fruit, and watering nursery.

Maximum temperature, 97°; minimum, 61°; precipitation, None.

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OCT 30 1935
PLANT INDUSTRY

WEEKLY STATION REPORTS

OF THE DIVISION OF

DRY LAND AGRICULTURE

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

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REPORT FOR WEEK ENDING SEPTEMBER 28, 1935.

JUDITH BASIN:

The first killing frost of the season occurred on the night of September 26 when the thermometer dropped to 24°. There was no green vegetation remaining on the station to be killed by the frost, so the damage done was negligible. Rain and snow threatened on several days, but the last of the week found clear skies without any appreciable moisture being received. Winter wheat was seeded on the rotations and on the Cereal project during the week. On most plots there is not sufficient moisture to germinate the grain.

Director Linfield and Prof. Chittenden visited the station during the week.

Maximum temperature, 86°; minimum, 24°; precipitation, Trace.

HUNTLEY:

The first killing frost of the season occurred on the morning of September 27 following a day of scattered showers with traces of snow. As practically all field crops had been harvested, the frost injury was largely confined to vegetable and flower gardens, killing the more tender species. In some spots the tips of third-crop alfalfa were frosted, but the effect of that injury on yield will be slight. Sudan grass, sorgo, and soybeans remaining in the hog pastures were killed, and the animals were removed to the dry lot.

Field work on the Dry Land project has consisted of laying out the smut nursery, preparing the seed for that experiment, and hauling and stacking feed crops. Final weights were also taken on the hogs in the pasture experiments previous to their removal from the plots.

Maximum temperature, 89°; minimum, 22°; precipitation, 0.09 inch.

DICKINSON:

The fore part of the week was extremely hot for late September, with a maximum of 93 degrees on Sunday. A light shower on the night of the 24th was followed by much cooler weather, with a minimum of 21° on the morning of the 27th. Only 0.07 inch precipitation was recorded, which was the total for September to date.

The soil is very dry, so that winter wheat and rye planted two weeks ago have not emerged except on fallow. The grasshoppers have eaten this into the ground so that the stand will probably be lost.

Corn on the rotations was husked and weighed. Grain yields were very light, and the corn was of poor quality on most plots. Fodder yields were about average. Samples of both grain and stover were kept for drying to compute final weights.

Maximum temperature, 93°; minimum, 21°; precipitation, 0.07 inch.

SHERIDAN:

Moderate temperatures somewhat above the station average for this time of the season prevailed over the first five days of the week, followed by light rain on the 26th, and cooler weather, with the first killing frost of the season this morning, the 28th.

Corn husking was completed and potatoes in Rot. 37 were dug just

before the rain. Moisture did not penetrate sufficiently to be of any benefit for plowing, but it should be beneficial to grass and fall seedings of grain, the moisture from the rains of the first of the month being gone to a large extent. A considerable amount of fall grain has been sown in this section.

Maximum temperature, 88°; minimum, 31°; precipitation, 0.46 inch.

MANDAN:

Agronomy - Part of the week was excellent fall weather, but a couple of days were windy and raw. The first killing frost of the season came on the night of the 25th, which is the average fall date. The minimum temperature was 28° on the morning of the 26th and 27° the following morning. Corn was shredded during the week. The yield will average about 25 bushels per acre.

Maximum temperature, 89°; minimum, 27°; precipitation, 0.13 inch.

Cooperative Grazing Experiment - The steers made above normal gains during September. The feed was good and the weather was favorable. Following are the gains by pastures for September and for the 120-day period:

Pasture (acres)	No. Steers	Gain per head (lbs) September	120 days
100	10	55.5	379.5
70	10	52.0	366.5
70 (Rot.)	12	50.0	332.1
crested wheat 1/	7	126.4	-----
93 (Reserve)	7	112.9	399.3

1/ on 93-acre reserve during September.

Horticulture - Picking of late varieties of fruits has been completed. Burwood and Winona showed up to advantage among late varieties of plums. Both resemble Emerald. Whitney was the best of the late crab varieties. Longfield apples bore fair crops. Grapes were also harvested. Birds had eaten a considerable part of the crop. Minn. 45 and 194 appear promising.

Raspberries have been pruned and other small fruits will be pruned next week. The taking of height, spread, and diameter measurements of fruit trees is still in progress. Potatoes are now ready to be dug, and this will probably be done next week.

Many trees which died from the effects of the drought were pulled out during the week. If rain fails to come this fall, we may see considerable more killing from drought.

The final picking of tomatoes in the breeding project was completed during the week. The quality was much improved, and the yields from the 6 strains included was on the whole fair.

Melons have ripened up well during the week. The quality was way below par, due perhaps to the light frost experienced in August, which partly killed the leaves on the vines. No selections were made this year on this account. Sweetcorn selections which during the early part of the summer appeared very promising, developed much smut and growth weakness towards the end of the season, and about 2/3 of the strains were discarded. The date of planting project, of open pollinated ears from the project was very satisfactory, all planting from May 20 to June 15 producing 100% yields with only a trace of smut presen..

The cabbage, celery, rutabages, beets, carrots, and parsnips still remain to be harvested in the garden plots.

Cannas were dug and stored the latter part of the week, the tops having been killed by frost on the 26th.

Arboriculture - Fall notes and height measurements of tree blocks have been taken during the week. The collection of Russian olive seed has also started. This species is bearing a heavy crop of seed this year. The frost on two nights during the week has been sufficient to check all seedling growth. Several species were making a fairly rapid growth up until this time.

Visitors for the week included: V. T. Heidenreich, Ft. Berthold Indian Reservation, N. Dak., and R. P. Daugherty, L. G. Baumhoger, B. I. Dieringer, Soil Conservation Service.

ARCHER:

During the week the weather continued warm and dry until September 26 when it turned cold and cloudy. During that night a snow storm totaling 0.31 inch of precipitation occurred. The weather is clear and warmer to-day. To date the total precipitation for September is 1.75 inches. The precipitation and warm weather have made conditions favorable for the seeding of winter cereals. It has also been favorable for the maturing of corn and other late crops. The prairie grasses are greener and pasture is plentiful. Work at the station consisted of putting up silage and Sudan grass hay.

Maximum temperature, 85°; minimum, 28°; precipitation, 0.31 inch.

NORTH PLATTE:

The bright, warm weather that had prevailed for the past two and one-half weeks, was broken by suddenly falling temperatures on the 25th. The week end brought the first fall frost with below freezing temperature.

Corn has matured better than seemed possible for it to do early in the month. Fall grain seeding has been completed on the station and in this part of the State generally. Sorghum varieties are being harvested today. Those reaching full maturity are Early Kalo, Greeley, Coos, Red Amber, Modoc, Feterita, and Early Sumac, while Kalo, Club Kafir, Dawn Kafir, Hegari, Wheatland Milo, Grohoma, and Atlas ranged from 80 to 20 percent mature.

Maximum temperature, 89°; minimum, 31°; precipitation, 0.08 inch.

AKRON:

Thursday closed with a drizzling rain, and Friday opened with a covering of wet snow which soon melted. The cool spell continued, and with clear weather Friday night brought the first frost of the fall season. While not severe in its damage, there can be no question about this being the first frost. The temperature dropped to 28° and yet such tender plants as beans and tomatoes suffered only tip injury. Melons and cucumbers were killed.

Rotation winter wheat and rye plots seeded last week are emerging on all preparations except cornland. Current field work was attended to.

Mr. Ray Taylor, Silviculturist for the New Rocky Mountain Forest and Range Experiment Station at Fort Collins visited Saturday.

Maximum temperature, 90°; minimum, 28°; precipitation, 0.37 inch.

COLBY:

The much needed rain fell Wednesday afternoon and night and Thursday night. Wednesday afternoon there was a smattering of hail and Friday morning there was a quarter inch of snow on the ground. In some parts of this county as much as 4 inches of rain fell, and over most of the west half the snow fall was heavier than at the station, amounting to 4 inches in places. The temperature dropped to 32° Friday morning but a there was no evidence of frost. This morning the minimum was only 33°, but a white frost covered everything. There is no evidence of any vegetation being even nipped.

The wheat and rye on the D.L.A. plots were seeded Monday and Tuesday. All the plots were dry to a depth of 5 inches in most places. The summer fallow plots were moist below this, but the others were practically dry. The last three plots of corn were cut this week, There were only a few ears here and there on each of these.

Maximum temperature, 93°; minimum, 32°; precipitation, 1.10 inches.

HAYS:

The news of most interest for this weekly report is that the prolonged drought previously twice "assaulted" but only dented by rains of about 1 inch was really broken during the night of the 25th by a 3.25 inches rain. According to the reports, Hays received the heaviest rainfall of any place in the State on that date. The rain extended east as far as Manhattan where 2.52 inches were recorded, but unfortunately appeared to taper off rapidly especially toward the west and south as shown by reports of 0.60 inch at Tribune and 0.32 inch at Liberal.

This rain will cause some delay in our wheat seeding, because the ground is still too wet to work and it is now likely that another tillage operation will be necessary on a large number of the plots before seeding. This delay, however, is causing no worry, because it will provide an opportunity to poison a newly-hatched crop of grasshoppers which together with a few "old-timers" have damaged our rye plots, seeded some weeks ago, to the extent that it appears re-seeding will be advisable.

Maximum temperature, 92°; minimum, 35°; precipitation, 3.25 inch

TUCUMCARI:

Cloudy, threatening weather most of the week resulted in only 0.33 inch precipitation. Temperatures dropped suddenly Thursday, and a minimum of 36° was recorded this morning. Late crops require moisture and considerable warm weather if they are to mature much grain.

Work included hauling, weighing, and stacking of cowpeas; binding of several corn plots; fence repairing; and odd work. No sorghums have been headed or harvested with row binder to date, although considerable drilled acreage has been cut with grain binder.

Maximum temperature, 86°; minimum, 36°; precipitation, 0.33 inch.

DALHART:

The third earliest frost on record came this morning. All vegetation, the ground, and buildings were thickly coated with hoary frost. The minimum temperature was 31°, and even after the sun came out this morning the frost stayed on the shaded areas for an hour. Just how complete the damage is can not be told this afternoon. The best guess seems to be that damage, at least complete damage or killing, will be confined to the lower areas. All vegetation shows some damage, but it

will take a day or two to tell whether maturing of the sorghums can continue. The latter part of the week has been cool with light showers. On Friday starting at 1 p.m. and lasting for half an hour a wet snow fell which melted into the air usually just short of the ground. The temperature was 37° during the snow. Monday, Tuesday, and Wednesday the cowpeas were harvested. Frequent mists and light showers prevented cocking the cowpeas after harvest. The leaves have stayed almost as fresh as when harvested. A rather preculiar phenomena was noticed this afternoon, in that cowpeas which were harvested and left in the swath on Wednesday afternoon showed more frost damage from this morning's frost than any other crop. The frequent mists had kept the cowpeas from barely wilting. The frost, if the damage is very severe, has ruined prospects for a grain crop on many farms, as, in many cases, the sorghums lacked from two to four weeks of being mature. Sorghum crops on the station are in a similar circumstance. None of them were fully mature and most ranged from blooming to starting maturity or coloring of the seed. The leaves appear frozen on many of the later plots, although this condition may not be as severe as feared. The north field on the station gave promise of fair to good crops of kafir, but the plots were all late; some of the milo plots in the same field were reaching maturity, although they showed drought injury.

Maximum temperature, 89°; minimum, 31°; precipitation, 0.23 inch.

BIG SPRING:

Weather conditions during the past week have been very unfavorable for crop maturity. During the greater part of September 23 and 24 intermittent rains were received totalling 1.43 inches. These were followed by cold, cloudy weather for the rest of the week. This condition has delayed maturity of late planted sorghums and the opening of cotton. Cotton picking will be at least 30 days later than usual in getting started this year; only a few bales have been ginned up to date.

Field work has consisted of hoeing weeds from roadways and making stand counts of milo. Other work has consisted of making wire baskets for sorghums heads and repairing machinery.

Maximum temperature, 80°; minimum, 50°; precipitation, 1.43 inches.

LAWTON:

Semicloudy weather and three showers that amounted to 0.38 inch during the past week retarded the opening of cotton bolls, interfered with picking, and added but little moisture to the soil. A cold north wind lowered the minimum temperatures to 45° on the 26th and to 43° on the 27th and 28th. The weekly maximum temperatures ranged from 63° to 89°. Good seed beds for small grains were completed during the week, and there appears to be sufficient surface moisture for germination and emergence if seeding is done within a few days. This condition is not true on late shallow plowing and on cotton land to be drilled.

The first picking of cotton was begun September 28, more than a month later than in the two previous years. Early planted cotton suffered the most drought injury, and the small knotty bolls are hard to pick. Although yields are considerably better than in 1934, a comparatively light crop will be harvested on the station.

Dr. F. A. Fenton, Department of Entomology, A. & M. College, Stillwater, Okla. visited the station on the 27th.

WOODWARD:

A light rain of 0.36 inch during the latter half of week revived wheat in windbreaks, which was dying. Wheat along roadways which have been practically fallowed all summer is growing nicely. There is not enough moisture in the surface soil to make seeding of wheat on the plots advisable, and comparatively little planting has been done so far by farmers. Grain on sorghums is filling slowly, while leaves are withering and dying.

An entomologist of the Shelterbelt reports that so many parasites have attacked borers in honeylocusts that trees not too badly injured will revive.

The China fleecevine appears as a cloud of bloom. It is by far the most vigorous and aggressive vine yet found for dry land conditions. It seems undifferent to soil conditions, making a good appearance where many plants are unable to grow because of chlorosis. It is apparently valuable as a forage. Its shortcoming is that no cheap and easy means has yet been found of propagating it.

Another valuable vine is an unidentified ampelopsis known as French grape. It is a rampant grower with a finely cut attractive leaf. Still another is Cisus incisa which grows vigorously under the same conditions in western Texas as do cactus and one-seed juniper.

Station work for the week consisted of harvesting hay and broomcorn, topping sorghums, picking cotton, trapping gophers, taking soil samples, and picking fruit.

Maximum temperature, 93°; minimum, 40°; precipitation, 0.36 inch.

PENDLETON: REPORT FOR TWO WEEKS ENDING SEPTEMBER 28, 1935.

Dry, warm weather persists in this area with no immediate relief in sight. Frosts occurred on several nights during the past week, with minimum temperatures of 28°. These frosts killed the field beans in the rotation plots, but no loss was sustained as the beans were classed as a failure. Farmers all over Eastern Oregon are very anxious to start their fall seeding. Dry seed beds have prevented most of them from seeding, however, a few are taking a chance and seeding in the dust. It is doubtful if we will do much seeding on the station before November 1. Rex winter wheat, which was released to farmers for trial from this station in the fall of 1934, is very much in demand in Eastern Oregon and Washington. Farmers are offering a premium of 35 to 45 cents a bushel for seed of this variety, with only a very small amount available.

Visitors:

R. S. Besse, Vice Director Oregon Experiment Station.
W. L. Teutsch, Assistant County Agent Leader, Oregon Extension Service.
Robt. Prentiss, Soil Conservation Service, Pullman, Wash.
Messrs. Burkmeier and Wells, Grazing Division, Forest Service, Portland, Oregon.

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